



STATE OF WASHINGTON  
DEPARTMENT OF AGRICULTURE  
Weights and Measures Program Metrology Laboratory  
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## REPORT OF CALIBRATION

Issued To:

Washington State Patrol  
8623 Armstrong Road SW  
Olympia, WA 98504

Point of Contact:

Dave Cromer  
Ph. 360-596-6000

Purchase Order Number:

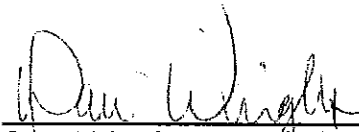
N/A

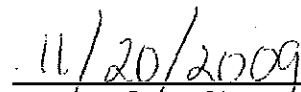
Report Number:

200446-0-L2902-8

*Calibration Date: November 20, 2009*

This is to certify that the information contained in this report is true and correct as of the date of calibration.

  
\_\_\_\_\_  
Dan Wright, State Metrologist

  
\_\_\_\_\_  
Date of Issue



Accredited by the National Laboratory Accreditation Program for the specific scope of accreditation under lab code 200446-0. This report may not be used to claim product endorsement by NVLAP or any other government agency, and may not be reproduced, except in full, without written approval from the laboratory.

# WSDA Weights and Measures Metrology Laboratory

Report Number: 200446-0-L2902-8

Calibration Date: November 18, 2009

## Artifact(s) Description

Test Item: Test Weight, 1000 lb, 16 each  
Serial Number: SP17 thru SP32  
Manufacture: Hern Iron Works  
Condition: Good

Date Received: November 16, 2009  
Tolerance Specification: NIST HB 105-1, Class F  
Material: Cast Iron

## Calibration Information

Job Order #: L2902  
Metrologist: Dan Wright  
Procedure: NIST HB 6969, SOP 8

Temperature: 22.2 °C  
Pressure: 752.3 mm Hg  
Humidity: 46.0 % RH

## Laboratory Reference Standards Used

Description	Serial Number	Cert. Number	Cal Date	Cal Due
1000 lb - 10 lb	SET WC	L2781-1	11/18/2008	11/18/2010

## Traceability Statement

The artifact(s) described in this report have been compared to the Standards of the State of Washington. The Standards of the State of Washington are traceable to the National Institute of Standards and Technology (NIST) and are part of a comprehensive measurement assurance program for ensuring continued accuracy and measurement traceability within the level of uncertainty reported by this laboratory. The report number for this report is the only unique report number to be used in referencing measurement traceability for the artifact(s) described in this report.

## Uncertainty Statement

The combined standard uncertainty includes uncertainties reported for the standard, uncertainties associated with the measurement process, uncertainties for any observed deviations from reference values which are less than surveillance limits (previous similar determinations have demonstrated that the tolerances are sufficiently large that buoyancy corrections are not usually significant [i.e., corrections & their uncertainty will not change the last decimal place of the reported value or uncertainty (with uncertainty reported to 2 significant digits)]). The combined standard uncertainty is multiplied by k, a coverage factor of 2, to give the expanded uncertainty (which defines an interval with an approximate 95 percent level of confidence). The expanded uncertainty presented in this report is consistent with NIST Technical Note 1297. Stated uncertainties are less than 1/3 of the applicable tolerances. Magnetic testing has not been performed and there are no components for the effects of magnetism in the uncertainty budget.

## Certification Statement

Accredited by the National Institute of Standards and Technology (NIST) through the National Voluntary Laboratory Accreditation Program (NVLAP) for the specified scope of accreditation under lab code 200446-0. This laboratory meets the requirements of ISO/IEC 17025 and ANSI/NCSL Z540-1.

## WSDA Weights and Measures Metrology Laboratory

Report Number: 200446-0-L2902-8

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### Pertinent Information

- In accordance with ISO/IEC FDIS 17025, General Requirements for the Competence of Testing and Calibration Laboratories, paragraph 5.10.4.4 'A calibration certificate (or calibration label) shall not contain any recommendation on the calibration interval except where this has been agreed with the client. This requirement may be superseded by legal regulations.'
- In accordance with Washington Administrative Code (WAC) Chapter 16-663, Service Agents -- Reporting, Test Procedures, Standards And Calibration Of Weighing And Measuring Devices, Section 16-663-130, Adequacy of standards and submission of standards for certification, paragraph 2, '... All standards used for servicing, repairing and/or calibrating commercial weighing and measuring devices must be submitted at least every two years for examination and certification...'
- The artifact(s) listed above have been found and/or left within the tolerances for the specification stated above, except as noted. An artifact is considered in-tolerance when the correction plus the measurement uncertainty is equal to or less than the specified tolerance. ***Bold Italic*** print indicates an out-of-tolerance reading.
- All corrections stated in this report correlate to a "Conventional Mass" (CM), also known as 'apparent mass', scale versus  $8.0 \text{ g/cm}^3$  reference mass density and an air density of  $1.2 \text{ mg/cm}^3$  at  $20^\circ\text{C}$ .
- 1 avoirdupois pound equals 453.59237 grams exactly.
- The results listed in this report relate only to the artifacts described and extent of calibrations performed.

# WSDA Weights and Measures Metrology Laboratory

Report Number: 200446-0-L2902-8

Calibration Date: November 18, 2009

## Calibration Results

Nominal Mass	Serial Number / ID	Manufacture	As Found Conventional Mass Correction (g)	As Left Conventional Mass Correction (g)	Uncertainty k=2 (g)	NIST HB 105-1, Class F Tolerance $\pm$ (g)	Assumed Density (g/cm <sup>3</sup> )
1000 lb	SP17	Hern Iron Works	1.0	1.0	5.3	45	7.2
1000 lb	SP18	Hern Iron Works	14.1	14.1	5.3	45	7.2
1000 lb	SP19	Hern Iron Works	16.4	16.4	5.3	45	7.2
1000 lb	SP20	Hern Iron Works	<b>46.0</b>	-1.0	5.3	45	7.2
1000 lb	SP21	Hern Iron Works	27.5	27.5	5.3	45	7.2
1000 lb	SP22	Hern Iron Works	-9.7	-9.7	5.3	45	7.2
1000 lb	SP23	Hern Iron Works	<b>44.9</b>	9.2	5.3	45	7.2
1000 lb	SP24	Hern Iron Works	<b>45.8</b>	3.9	5.3	45	7.2
1000 lb	SP25	Hern Iron Works	<b>53.5</b>	-1.0	5.3	45	7.2
1000 lb	SP26	Hern Iron Works	22.8	22.8	5.3	45	7.2
1000 lb	SP27	Hern Iron Works	16.7	16.7	5.3	45	7.2
1000 lb	SP28	Hern Iron Works	-18.8	-18.8	5.3	45	7.2
1000 lb	SP29	Hern Iron Works	<b>46.1</b>	-0.2	5.3	45	7.2
1000 lb	SP30	Hern Iron Works	30.6	30.6	5.3	45	7.2
1000 lb	SP31	Hern Iron Works	19.7	19.7	5.3	45	7.2
1000 lb	SP32	Hern Iron Works	28.9	28.9	5.3	45	7.2